Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for monitoring the functionality of an optical element comprising:

a detector; and

a light source whose radiation is reflected to the detector by a surface of the optical element facing the detector and the light source,

wherein the light source and the detector are integrated in a holder for the optical element.

2. (Original) The apparatus of claim 1, wherein the light source is arranged to direct radiation to the center of the surface of the optical element.

3. (Original) The apparatus of claim 1, wherein the light source and the detector are disposed laterally to the optical element.

4. (Original) The apparatus of claim 1, wherein the light source and the detector are both disposed at the same angle to the surface of the optical element.

5. (Original) The apparatus of claim 1, wherein the radiation of the light source is directed to the surface of the optical element at an angle of less than 30°.

6. (Canceled)

7. (Original) The apparatus of claim 1, wherein the light source is a light emitting diode and the detector is a photodiode.

8. (Original) The apparatus of claim 1, further comprising a comparator for comparing a detected light intensity detected by the detector with a reference intensity.

9. (Original) The apparatus of claim 8, wherein the comparator generates an error signal when the detected light intensity differs from the reference intensity by a defined value.

10. (Original) The apparatus of claim 1, wherein the optical element comprises zinc selenide.

11. (Original) The apparatus of claim 1, wherein the optical element comprises gallium arsenide.

12. (Original) The apparatus of claim 1, wherein the optical element comprises diamond.

13. (Currently Amended) An apparatus for monitoring the functionality of an optical element comprising:

a detector; and

a light source whose radiation is reflected by a surface of the optical element to the detector, wherein the surface faces the detector and the light source, wherein the radiation of the light source is directed to the center of the surface of the optical element, wherein the light source and the detector are disposed laterally to the optical element, wherein the light source and the detector are disposed at the same angle to the surface of the optical element, and wherein the radiation of the light source is directed to the surface of the optical element at an angle of less than 30°; and

a comparator for comparing a light intensity detected by the detector with a reference intensity and for generating an error signal when the detected light intensity differs from the reference intensity by a defined value,

wherein the light source and the detector are integrated in a holder for the optical element.

14. (Currently Amended) A laser comprising:

a laser resonator;

an optical element;

a detector;

a light source whose radiation is reflected by a surface of the optical element facing the detector and the light source to the detector, wherein the light source and the detector are arranged to monitor the functionality of the optical element,

wherein the light source and the detector are integrated in a holder for the optical element.

15. (Currently Amended) The laser of claim 14, ~~wherein the laser is~~ comprising a CO_2 laser.

16. (Currently Amended) The laser of claim 14, wherein the surface of the optical element is a mirror surface provided in a laser resonator.

17. (Currently Amended) The laser of claim 16, further comprising a laser resonator, wherein the surface of the optical element is an inner side of an output coupler mirror facing the laser resonator.

18. (Currently Amended) The laser of claim 16, wherein the surface of the optical element is an outer side of an output coupler mirror facing away from the laser resonator.

19. (Original) The laser of claim 14, further comprising a comparator for comparing a light intensity detected by the detector with a reference intensity and generating an error signal when the detected light intensity differs from the reference intensity by a defined value.

20. (Original) The laser of claim 19, wherein the error signal causes the laser to be switched off.

21. (Original) The laser of claim 14, wherein the radiation of the light source is directed to the center of the surface of the optical element.

22. (Original) The laser of claim 14, wherein the light source and the detector are disposed laterally to the optical element.

23. (Original) The laser of claim 14, wherein the light source and the detector are disposed at the same angle to the surface of the optical element.

24. (Original) The laser of claim 14, wherein the radiation of the light source is directed to the surface of the optical element at an angle of less than 30°.

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Currently Amended) An apparatus for monitoring damage to an optical element of a laser resonator comprising:

a light source whose radiation is reflected by a surface of the optical element;

a detector for detecting radiation emitted from the light source and reflected by the surface of the optical element, wherein the detector is adapted for detecting a characteristic of the reflected radiation indicative of damage to the optical element,

wherein the light source and the detector are integrated in a holder for the optical element.

29. (Original) The apparatus of claim 28, wherein the radiation of the light source is directed to the surface of the optical element at an angle of greater than 60° to the normal of the surface of the optical element.

30. (Canceled)

31. (Original) The apparatus of claim 28, wherein the light source is a light emitting diode and the detector is a photodiode.

32. (Currently Amended) The apparatus of claim 28, wherein the characteristic of the reflected radiation is [[an]] a light intensity of the reflected radiation, and further comprising a comparator for comparing the light intensity of the reflected radiation with a reference intensity.

33. (Original) The apparatus of claim 32, wherein the comparator generates an error signal when the light intensity of the reflected radiation differs from the reference intensity by a defined value.

34. (Original) The apparatus of claim 33, wherein the error signal is used to switch off a laser whose optical element is monitored by the apparatus.

35. (Currently Amended) A method for monitoring damage to an optical element of a laser resonator, the method comprising:

shining a light beam onto a surface of the optical element;

detecting [[an]] a light intensity of a reflected portion of the light beam that is reflected by the optical element while shining the light beam on the surface of the optical element; and

comparing the light intensity of the reflected portion of the light beam with a reference intensity.

36. (Original) The method of claim 35, wherein the light beam is directed to the surface of the optical element at an angle of greater than 60° to the normal of the surface of the optical element.

37. (Currently Amended) The method of claim 35, further comprising generating an error signal when the light intensity of the reflected portion of the light beam differs from the reference intensity by a defined value.

38. (Original) The method of claim 37, further comprising switching off a laser in response to the error signal.

39. (New) The apparatus of claim 1, wherein the detector, the light source, and the optical element are exposed to a common vacuum pressure.

40. (New) The apparatus of claim 1, wherein the light source is positioned so as to provide an unobstructed pathway to the surface of the optical element.

41. (New) The apparatus of claim 1, wherein the detector and the light source are diametrically opposed relative to the optical element.

42. (New) The apparatus of claim 1 wherein the light source and the laser resonator are configured to emit light at differing frequencies from one another.

43. (New) The apparatus of claim 14, wherein the detector, the light source, and the optical element are exposed to a common vacuum pressure.

44. (New) The apparatus of claim 14, wherein the light source is positioned so as to provide an unobstructed pathway to the surface of the optical element.

45. (New) The apparatus of claim 14, wherein the detector and the light source are diametrically opposed relative to the optical element.

46. (New) The apparatus of claim 14, wherein the light source and the laser resonator are configured to emit light at differing frequencies from one another.

47. (New) The apparatus of claim 28, wherein the detector, the light source, and the optical element are exposed to a common vacuum pressure.

48. (New) The apparatus of claim 28, wherein the light source is positioned so as to provide an unobstructed pathway to the surface of the optical element.

49. (New) The apparatus of claim 28, wherein the detector and the light source are diametrically opposed relative to the optical element.

50. (New) The apparatus of claim 28 wherein the light source and the laser resonator are configured to emit light at differing frequencies from one another.